

=> d his

(FILE 'USPAT' ENTERED AT 15:14:01 ON 11 FEB 1998)

L1 240019 S (PARTICULATE# OR PARTICLE# OR DUST# OR HAZARD? OR TOXIC?  
OR  
L2 63496 S L1 AND (AEROSOL OR ATOM?)  
L3 49599 S L2 AND (BIND? OR BOUND? OR STICK? OR TACK? OR ADHER? OR  
COA  
L4 3296 S L3 AND (ULTRASOUND OR ULTRASONIC)  
L5 143 S L4 AND INHAL?  
L6 3140 S L4 AND (AIR OR SPACE# OR AREA# OR ATMOSPHER? OR ENVIRONM  
ENT  
L7 422 S L6 AND ENCAPSULAT?  
L8 1169 S L6 AND FILTER#  
L9 1215 S L6 AND RELEAS?  
L10 1106 S L9 AND REMOV?  
L11 506 S L10 AND FILTER#  
L12 72154 S (PARTICLE# OR PARTICULATE# OR DUST# OR CONTAMIN? OR TOXI  
C?  
L13 72154 S (PARTICLE# OR PARTICULATE# OR DUST# OR CONTAMIN? OR TOXI  
C?  
L14 5691 S L13 AND (AEROSOL OR ATOMIZ?)  
L15 5450 S L14 AND (ATMOSPHER? OR AIR OR ARE# OR SPACE# OR ENVIRONM  
ENT  
L16 77513 S (PARTICLE# OR PARTICULATE# OR DUST# OR CONTAMIN? OR TOXI  
C?  
L17 6081 S L16 AND (AEROSOL OR ATOMIZ?)  
L18 4678 S L17 AND AIR  
L19 1659 S L17 AND ENVIRONMENT  
L20 2355 S L17 AND ATMOSPHERE  
L21 271 S L20 NOT L19 NOT L18

FILE 'JPOABS' ENTERED AT 16:16:33 ON 11 FEB 1998

L22 20831 S (PARTICLE# OR PARTICULATE# OR DUST# OR CONTAMIN? OR TOXI  
C?  
L23 242 S L22 AND (AEROSOL OR ATOMIZ?)  
L24 112 S L23 AND (AIR OR ENVIRONMENT OR ATMOSPHERE OR AREA# OR SP  
ACE

FILE 'EPOABS' ENTERED AT 16:28:55 ON 11 FEB 1998

L25 6988 S (PARTICLE# OR PARTICULATE# OR DUST# OR CONTAMIN? OR TOXI  
C?  
L26 69 S L25 AND (AEROSOL OR ATOMIZ?)  
L27 30 S L26 AND (AIR OR SPACE# OR AREA# OR ATMOSPHERE OR ENVIRON  
MEN

=> d 127 all 16,27

US 04335419A

Jun. 15, 1982

L27: 16 of 30

Insulated dust control apparatus for use in an explosive environment

INVENTOR: EDWARD E HASTINGS  
ASSIGNEE: HASTINGS EDWARD E  
APPL NO: US 19873980A  
DATE FILED: Oct. 20, 1980  
PATENT ABSTRACTS OF EUROPE  
ABS GRP NO:

ABS VOL NO:  
ABS PUB DATE:  
INT-CL: B05B 5/02

ABSTRACT:

An apparatus is provided for producing a spray of **atomized** and electrostatically charged **particles** of liquid to remove oppositely charged pollutants from the **atmosphere**. The apparatus is particularly suited for use in a potentially explosive **atmosphere**. The apparatus includes a nozzle which receives liquid and compressed **air** and produces a high pressure spray of **atomized liquid particles**. A ring electrode coaxially surrounds the spray near the nozzle. The electrode is chargeable to a high electrostatic potential relative to the nozzle, whereby the liquid **particles** of the spray are inductively charged by passing the ring. The electrode is fully encased in a ring of insulating material. A grounded metal housing surrounds the ring of insulating material on all sides except the radially interior side thereof. The metal housing and ring of insulating material are **coated** on all exposed **surfaces** by a dip **coating** of insulating material.

DE 04318885A1 Jun. 16, 1994 L27: 27 of 30  
Radioactive material handling process - involves mineral coating application to avoid particle or dust release

INVENTOR: RUEDIGER DIPL CHEM DR WUERTZ  
ASSIGNEE: SIEMENS AG  
APPL NO: DE 04318885A  
DATE FILED: Jun. 7, 1993  
PATENT ABSTRACTS OF EUROPE  
ABS GRP NO:  
ABS VOL NO:  
ABS PUB DATE:  
INT-CL:

ABSTRACT:

In a **radioactive** or **radioactively contaminated** material handling process, the novelty is that the material is provided with a mineral **coating**, pref. formed by applying an aq. silicate soln.. Pref., when the material is a **radioactively contaminated** material with **contaminating particles** on its **surface**, it is provided with a mineral **coating** which **binds** the **particles** and, when the material is metallic, a lime **coating** is provided under the mineral **coating**. USE/ADVANTAGE - In the handling of nuclear fuel or **radioactively contaminated** structural materials (e.g. concrete or metal). The **coating** prevents release of **radioactive particles** or **dust** into the **environment** and prevents access of **air** to the material **surface** to reduce corrosion and consequent **dust** or **aerosol** formation.

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(FILE 'USPAT' ENTERED AT 11:55:13 ON 11 FEB 1998)

L1 189877 S (PARTICULATE# OR PARTICLE# OR DUST OR HAZARD#) (P) (WALL  
# O  
L2 4784 S L1 AND AEROSOL  
L3 3765 S L2 AND (ADHER? OR BIND? OR BOUND? OR STICK? OR TACK? OR  
CAP  
L4 2837 S L3 AND AIR?  
L5 177 S L4 AND RADIOACTIVE  
L6 25 S L5 AND (ULTRASONIC OR ULTRASOUND)  
L7 0 S TI 1-25

FILE 'JPOABS' ENTERED AT 12:05:32 ON 11 FEB 1998

L8 53113 S (PARTICULATE# OR PARTICLE# OR DUST OR HAZARD#) (P) (WALL  
# O  
L9 79 S L8 AND AEROSOL  
L10 35 S L9 AND (STICK? OR BIND? OR BOUND? OR ADHER? OR COAT? OR  
CAP  
L11 0 S 1-35 TI

FILE 'EPOABS' ENTERED AT 12:33:53 ON 11 FEB 1998

L12 22991 S (PARTICULATE# OR PARTICLE# OR DUST OR HAZARD) (P) (WALL#  
OR  
L13 146 S L12 AND AEROSOL  
L14 17 S L13 AND ((ADHER? OR BIND? OR BOUND? OR STICK? OR TACK? O  
R C

FILE 'USPAT' ENTERED AT 12:40:10 ON 11 FEB 1998

L15 184291 S (PARTICLE# OR PARTICULATE# OR DUST#) (P) (WALL# OR SURFA  
CE#  
L16 23044 S L15 AND (TOXIC OR HAZARD? OR RADIOACT?)  
L17 8556 S L16 AND (ATOM? OR AEROSOL)  
L18 54682 S L15 AND (CONTAMIN? OR HAZARD? OR TOXIC OR RADIOACT?)  
L19 17377 S L18 AND (ATOM? OR AEROSOL)  
L20 3850 S L9 AND (AIR OR ENVIRONMENT OR SPACE)  
L21 2916 S L20 AND (BIND? OR BOUND? OR TACK? OR STICK? OR ADHER? OR  
CO  
L22 317 S L21 AND (ULTRASONIC OR ULTRASOUND)  
L23 149 S L22 AND (RELEAS? OR RESUSPEN?)

=> d his

(FILE 'HOME' ENTERED AT 12:55:05 ON 11 FEB 1998)

FILE 'CAPLUS, JAPIO, USPATFULL, WPIDS' ENTERED AT 12:55:17 ON 11 FEB 1998

L1 444288 S (PARTICLE# OR PARTICULATE3 OR DUST#) (P) (WALL# OR SURF  
L2 469419 S (PARTICLE# OR PARTICULATE# OR DUST#) (P) (WALL# OR SURF  
L3 69871 S L2 AND (CONTAMIN? OR TOXIC? OR HAZARD? OR RADIOACT?)  
L4 58212 S L3 AND (AIR OR SPACE# OR AREA# OR ENVIRONMENT)  
L5 17837 S L4 AND (AEROSOL OR ATOM?)  
L6 14167 S L5 AND (BIND? OR BOUND? OR STICK? OR TACK? OR ADHER? O  
L7 434 S L6 AND INHAL?  
L8 1105 S L6 AND (ULTRASONIC OR ULTRASOUND)  
L9 224 S L8 AND ((ULTRASONIC OR ULTRASOUND) (P) (ATOMIZ? OR AER

=> d 19 all 1

L9 ANSWER 1 OF 224 CAPLUS COPYRIGHT 1998 ACS  
AN 1997:283807 CAPLUS  
DN 126:269643  
TI Method and apparatus for encapsulating particulates  
IN Berg, Robert O.; Rigby, William F.; Albers, John P. *Applicant*  
PA Encapsulation Technology, Llc, USA  
SO PCT Int. Appl., 29 pp.  
CODEN: PIXXD2  
PI WO 9709081 A1 970313  
DS W: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK,  
EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR,  
LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU,  
SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY,  
KG, KZ, MD, RU, TJ, TM  
RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FI, FR, GA, GB,  
GR, IE, IT, LU, MC, NL, PT, SE  
AI WO 96-US14042 960830  
PRAI US 95-3106 950901  
DT Patent  
LA English  
IC ICM A61M011-00  
ICS B01D047-06; B01J013-04; B05D001-02; G21F009-28  
CC 71-10 (Nuclear Technology)  
Section cross-reference(s): 60  
AB An improved method and device for decontamination of a  
**contaminated process area** is provided whereby a  
fine **aerosol** of an encapsulant for use in encapsulating  
the **contaminants** within the **contaminated**  
**environment** is generated. The **aerosol** is  
generated by a plurality of **ultrasonic** transducers located  
below the **surface** of a reservoir contg. a capture liq.  
The output of the transducers is focused to a point near the  
**surface** of the liq. to cause a **surface** disturbance  
which gave an **aerosol** of encapsulant from the capture liq.  
A pressurization fan is used to force ambient **air** through  
the pressurization chamber to transport the **aerosol** to the  
process are to be treated. The **aerosol** forms a thin  
**coating** of encapsulant over the **hazardous** material  
thereby allowing the **hazardous** material to be safely

removed from the process **area** or permanently attached to the walls of the process **area**. If a chem. **hazardous** material is found in the process **area**, a capture liq. can be selected to neutralize the **hazardous** material. The process is esp. effective at recovering **radioactive dust** from a **contaminated** process **area**.

ST particulate encapsulation **aerosol radioactive** decontamination; safety **aerosol** formation decontamination

IT Aerosols

Decontamination

Microencapsulation

Particulate **air** pollution

**Radioactive** decontamination

Sound and **Ultrasound**

(method and app. for encapsulating particulates)

=> d his

(FILE 'USPAT' ENTERED AT 11:55:13 ON 11 FEB 1998)

L1 189877 S (PARTICULATE# OR PARTICLE# OR DUST OR HAZARD#) (P) (WALL  
# O  
L2 4784 S L1 AND AEROSOL  
L3 3765 S L2 AND (ADHER? OR BIND? OR BOUND? OR STICK? OR TACK? OR  
CAP  
L4 2837 S L3 AND AIR?  
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L6 25 S L5 AND (ULTRASONIC OR ULTRASOUND)  
L7 0 S TI 1-25

FILE 'JPOABS' ENTERED AT 12:05:32 ON 11 FEB 1998

L8 53113 S (PARTICULATE# OR PARTICLE# OR DUST OR HAZARD#) (P) (WALL  
# O  
L9 79 S L8 AND AEROSOL  
L10 35 S L9 AND (STICK? OR BIND? OR BOUND? OR ADHER? OR COAT? OR  
CAP  
L11 0 S 1-35 TI

=> d l10 all 9,13,14,29

04-63169

Feb. 28, 1992

L10: 9 of 35

COATING METHOD WITH AEROSOL

INVENTOR: MASABUMI MATSUNAGA, et al. (1)  
ASSIGNEE: NORDSON KK, et al. (50)  
APPL NO: 02-171399  
DATE FILED: Jun. 29, 1990  
PATENT ABSTRACTS OF JAPAN  
ABS GRP NO: C0951  
ABS VOL NO: Vol. 16, No. 265  
ABS PUB DATE: Jun. 16, 1992  
INT-CL: B05D 1/02

ABSTRACT:

PURPOSE: To increase **coating** efficiency by heating an **aerosol** to a temp. above the temp. of a body to be **coated** during generation and/or transfer, condensing vapor of a solvent present in an atmosphere with **particles** of the **aerosol** in the atmosphere as nuclei, further condensing the vapor on the **surface** of the body to be **coated** and **sticking** the **particles** of the **aerosol** and the solvent on the body to be **coated**.

CONSTITUTION: A soln. L to be sprayed to increase the amt. of vapor or a carrier gas CG and/or an **aerosol** generator 1 is heated or a generated **aerosol** is further heated during transfer. A body Oa to be **coated** is set at the lower part of a **coating** booth. Since vapor of a solvent in the **aerosol** is in a satd. state at a temp. above the temp. of the body Oa, the vapor is condensed by the temp. difference with **particles** of the **aerosol** as nuclei and further condensed on the **surface** of the body Oa. Fine **particles** R carried by the carrier gas collide against drops formed by the condensation, the kinetic energy of the **particles** is absorbed in the drops to reduce the **bound** of

the **particles** and the **particles** stick on the drops. When a large number of such drops gather, a liq. film Sf is formed, covers the entire **surface** of the body Oa and can further reduce the **bound** of the fine **particles**.

02-189159

Jul. 25, 1990

L10: 13 of 35

**COATING METHOD FOR AEROSOL**

INVENTOR: MASABUMI MATSUNAGA, et al. (1)

ASSIGNEE: NORDSON KK, et al. (90)

APPL NO: 01-8322

DATE FILED: Jan. 17, 1989

PATENT ABSTRACTS OF JAPAN

ABS GRP NO: C0767

ABS VOL NO: Vol. 14, No. 459

ABS PUB DATE: Oct. 4, 1990

INT-CL: A61M 11/00

**ABSTRACT:**

**PURPOSE:**To improve **coating** efficiency by reducing the occurrence of **bound** of **aerosol particles** by a method wherein solvent steam is present in **aerosol**, a substance to be **coated** is cooled, **aerosol particles** are **adhered** on dewdrops, generated resulting from formation of dew of steam, e.g. a solvent, on the **surface** of the substance to be **coated**, or a liquid film by means of a line of electric force, and thereafter, the solvent is vaporized.

**CONSTITUTION:**Steam generated through gasification of a solvent is contained in **aerosol**. A cooling board 25 connected to a cooling device 23 is situated below a **coating** part, a substance Oa to be **coated** is placed thereon through an earthed plate 27 to cool the substance to be **coated**, and the temperature of the substance to be **coated** is by means of the temperature of solvent steam at the **coating** part. Reduction of the temperature causes solvent steam to produce dew Sc formed on the **surface** to be **coated**. **Particles** R carried by carrier gas are **adhered** on the dewdrops generated resulting from formation of the dew and accelerated by a line of electric force emitted toward the substance Oa to be **coated** from an electrode 26 for application of static electricity, and the line of electric force is collided with the **surface** of the substance to be **coated**. Movement energy of the **particles** is absorbed by liquid of the dewdrops, the occurrence of **bound** is reduced, and the **particles** are effectively **adhered** on the dewdrops by means of electrostatic attractive force. When a number of dewdrops are gathered, they form a liquid filmform substance Sf with which the whole **surface** of the substance to be **coated** is covered, and the occurrence of **bound** of the **particles** can be further reduced.

02-122873

May 10, 1990

L10: 14 of 35

**APPLYING METHOD FOR AEROSOL**

INVENTOR: MASABUMI MATSUNAGA, et al. (1)

ASSIGNEE: NORDSON KK, et al. (40)

APPL NO: 63-277766

DATE FILED: Nov. 2, 1988

PATENT ABSTRACTS OF JAPAN

ABS GRP NO: C0742

ABS VOL NO: Vol. 14, No. 334

ABS PUB DATE: Jul. 18, 1990

INT-CL: B05D 7/24; //B05D 1/02

**ABSTRACT:**

PURPOSE:To coat a surface to be coated with particles efficiently by cooling a material to be applied down to the saturating point of solvent vapor, condensing the solvent vapor in aerosol on the material surface to be coated and adhere the particles of aerosol.

CONSTITUTION:Aerosol As composed of gas and fine particles is formed; and gas G is introduced from below a chamber 2 as carrier gas CG to feed aerosol As into a coating section 22. A cooling board 25 connected with a cooling device 23 is provided below the coating section 22, on which a material Oa to be coated is placed. The material Oa to be coated is cooled down to the temperature lower than that of solvent vapor at the coating section 22 and the solvent vapor is condensed Sc on the material surface to be coated. Particles R carried by carrier gas CG hit condensed dew drops, and kinetic energy of fine particles R is absorbed by the liquid of dew drops to reduce bounding, and the fine particles are adhered on the dew drops.a

61-21751

Jan. 30, 1986

L10: 29 of 35

PURIFICATION OF DUST IN AIR

INVENTOR: TSUMORU NAKAMURA, et al. (1)  
ASSIGNEE: MITSUBISHI JUKOGYO KK  
APPL NO: 59-143776  
DATE FILED: Jul. 11, 1984  
PATENT ABSTRACTS OF JAPAN  
ABS GRP NO: C354  
ABS VOL NO: Vol. 10, No. 172  
ABS PUB DATE: Jun. 18, 1986  
INT-CL: B03C 3/14; B03C 3/38

ABSTRACT:

PURPOSE:To collect dust hard to collect in a high dust removal ratio, by charging electrostatically charged particles into a dust removing aerosol and collecting particles having dust adhered thereto by a filter.

CONSTITUTION:Air of a clean environment 1 is supplied to a dust charging device 4 where dust receives a predetermined quantity of charge by single-pole corona discharge while the charged dust is sent to a duct 5 and mixed with particles electrostatically charged by an particle charging device 8 in this space to be flowed to a filter 6. In this flowing process, charged dust is efficiently adhered to the surfaces of electrostatically charged particles. Thereafter, the dust is collected along with particles by the filter 6. By this method, dust having a particle size range hard to collect is collected in a high dust removal ratio.